CONDITION

Newborn jaundice

Newborn jaundice is yellowing of a baby's skin and eyes caused by bilirubin building up in the blood.

WHAT IT IS
Yellowing caused by bilirubin buildup after birth

BODY SYSTEM
Blood, liver, and bile drainage system

MAIN SYMPTOMS
Yellow skin, yellow eyes, sleepiness, poor feeding

WHAT CAUSES IT
Immature liver, blood cell breakdown, or another condition

HOW IT IS DIAGNOSED
Skin screening and blood bilirubin measurement

MAIN TREATMENT
Feeding support, phototherapy, or treatment of the cause

CAN IT BE CURED?
Yes - bilirubin falls as liver matures

IS IT AN EMERGENCY?
Sometimes - hard to wake, arching, or seizures

LONG-TERM OUTLOOK
Usually full recovery without lasting effects

Overview

Newborn jaundice is a yellow color in a baby's skin and the whites of their eyes. It happens when a yellow substance called bilirubin builds up in the blood.

Bilirubin forms when old red blood cells are broken down. The liver normally processes bilirubin so it can leave the body in stool. During the first days after birth, a baby's liver may not remove bilirubin quickly enough. Newborns also break down more red blood cells than older children and adults.

Mild jaundice is common in the first week and often improves as the liver matures and feeding becomes established. However, some babies develop bilirubin levels that need treatment. A very high level of certain types of bilirubin can affect the brain if it is not recognized and treated.

Jaundice can also be a sign of increased red blood cell breakdown, infection, or a problem with the liver or bile ducts. The timing of the yellow color, the baby's age in hours, and the bilirubin measurement help determine what it may mean.

Symptoms

The main symptom is yellowing of the skin. It may first appear on the face and then become visible on the chest, abdomen, arms, or legs as the bilirubin level rises.

Other possible signs include:

Yellowing may be harder to see in brown or black skin. Looking at the whites of the eyes and inside the mouth can help, but appearance alone cannot show the bilirubin level. A skin or blood measurement may be needed.

Dark urine or very pale, chalky stools are not typical signs of ordinary newborn jaundice. They can point to a liver or bile drainage problem and need prompt medical assessment. Newborn urine is usually pale, while stools normally become yellow, green, or brown after the first few days.

- Yellow color in the whites of the eyes or inside the mouth
- Sleepiness or difficulty staying awake for feeds
- Poor attachment to the breast or bottle
- Fewer wet or dirty diapers than expected

Causes and risk factors

The most common form is sometimes called physiological jaundice. It develops because the newborn liver is still learning to process bilirubin efficiently. It usually appears after the first 24 hours of life.

Not getting enough milk can add to the problem. If feeding is not yet effective, the baby may pass fewer stools, allowing more bilirubin to be absorbed back into the blood. This is called suboptimal intake jaundice.

Breast milk jaundice is a different pattern. It begins after feeding is established and can continue for several weeks in an otherwise healthy, growing baby. Its exact cause is not fully understood. Other causes must still be considered if jaundice lasts longer than expected.

Factors that can increase the chance of a higher bilirubin level include:

Jaundice during the first 24 hours is not considered the usual newborn pattern. It may be caused by rapid red blood cell breakdown or another condition and needs urgent assessment.

A less common but important cause is cholestasis. This means bile is not flowing normally from the liver. Possible reasons include liver inflammation, metabolic conditions, or a blocked or underdeveloped bile duct.

- Birth before 38 weeks of pregnancy
- Significant bruising or a collection of blood under the scalp
- A previous sibling who needed jaundice treatment
- Difficulty feeding or excessive early weight loss
- A blood group mismatch between the baby and birth parent
- Inherited red blood cell conditions, including G6PD deficiency
- Infection or illness after birth

Diagnosis

A healthcare professional will consider when the yellowing began, how the baby is feeding, weight changes, urine and stool color, and any risk factors.

Bilirubin can first be estimated using a light meter placed against the skin. This is called a transcutaneous bilirubin test. It does not hurt or break the skin.

A blood test gives a more accurate total serum bilirubin level. It may be needed when the skin result is high, the baby is very young, jaundice appeared early, or treatment is being considered.

The result is interpreted using the baby's age in hours, gestational age at birth, and factors that may make the brain more sensitive to bilirubin. There is not one bilirubin number that applies to every newborn.

Further tests may be used to look for a cause. These can include:

If jaundice continues for longer than expected, the blood may be separated into direct and indirect bilirubin. A raised direct bilirubin level can suggest a liver or bile drainage problem and requires further evaluation.

- The baby's and birth parent's blood groups
- A direct antiglobulin test for immune-related blood cell breakdown
- A blood count and tests of red blood cell production

- Testing for G6PD deficiency when appropriate
- Tests for infection or other illness

Treatment and management

Many babies with mild jaundice need monitoring rather than medical treatment. Follow-up may include another bilirubin measurement, a weight check, and an assessment of feeding and hydration.

Effective feeding helps bilirubin leave through stool. Breastfeeding support may include help with positioning, attachment, milk transfer, and expressing milk. If extra milk is medically needed, the options are discussed with the family based on the baby's needs. Breastfeeding usually continues.

Phototherapy is the main treatment when bilirubin reaches a treatment level. The baby lies under special blue light or on a light-emitting pad. The light changes bilirubin into forms that the body can remove more easily.

During phototherapy, the care team monitors temperature, hydration, feeding, and bilirubin levels. The baby's eyes are protected when overhead lights are used. Treatment may last for hours or longer, depending on how quickly the level falls and whether it rises again after the lights stop.

Ordinary sunlight is not a safe substitute. Its intensity cannot be controlled, and it can expose a newborn to overheating, chilling, or sunburn.

If bilirubin is extremely high or rises despite intensive phototherapy, an exchange transfusion may be needed. This hospital procedure gradually replaces small amounts of the baby's blood. It is reserved for severe cases because it is more invasive.

Treatment may also address the cause, such as infection, dehydration, or rapid red blood cell breakdown.

Complications

Most babies recover without lasting effects.

The main concern is a very high level of unconjugated bilirubin. This is bilirubin that the liver has not yet processed. It can enter brain tissue and cause acute bilirubin encephalopathy.

Early signs may include unusual sleepiness, poor feeding, a weak or high-pitched cry, or reduced muscle tone. Later signs can include stiffness, backward arching of the neck or body,

breathing pauses, or seizures.

Permanent injury from bilirubin is called kernicterus. It can cause hearing loss, movement difficulties, problems controlling eye movements, and changes in tooth enamel. Prompt measurement and treatment of high bilirubin greatly reduce this risk.

Direct bilirubin does not cause kernicterus in the same way. However, a raised direct level can signal a serious liver or bile duct condition that needs early diagnosis.

Prevention

Newborn jaundice cannot always be prevented. Normal bilirubin production and temporary liver immaturity are part of the transition after birth.

Severe jaundice is more likely to be avoided when bilirubin risk is assessed before discharge and follow-up happens at the recommended time. The timing of follow-up is based on the baby's age, bilirubin result, gestational age, feeding, and other risk factors.

Frequent, effective feeding can reduce jaundice linked to low milk intake. Water or sugar water should not be given for jaundice unless it is part of medical care.

Blood group testing during pregnancy helps identify a risk of Rh-related blood cell breakdown. Preventive anti-D treatment for eligible Rh-negative pregnant people can reduce this cause, but it does not prevent every form of newborn jaundice.

Living with it and what to expect

Typical newborn jaundice improves as feeding increases and the liver becomes better at processing bilirubin. The yellow color often fades over the first one to two weeks, although it can last longer in babies born early.

Breast milk jaundice may remain visible for several weeks. If the baby is feeding well, gaining weight, and has normal urine and stool colors, it is often harmless. Persistent jaundice should still be assessed rather than assumed to be caused by breast milk.

Babies treated with phototherapy usually return to normal feeding and daily care once bilirubin stays below the treatment level. A repeat test may be arranged because bilirubin can rise again after treatment, especially when red blood cells are still breaking down rapidly.

Jaundice itself does not usually cause ongoing health problems after the bilirubin level returns to a safe range. Long-term follow-up may be needed if there was severe bilirubin-related brain injury or if testing finds an underlying blood, liver, or metabolic condition.

When to get medical help

Contact the baby's maternity or pediatric care team promptly if:

Arrange urgent medical assessment for any fever in a young newborn. A temperature of 38°C or 100.4°F or higher can be a sign of infection and should not be managed as routine jaundice follow-up.

Seek emergency care if the baby is difficult to wake, becomes floppy or unusually stiff, has a high-pitched cry, arches the neck or back, has breathing pauses, or has a seizure. These can be signs of severe illness or bilirubin affecting the brain.

- Yellowing appears during the first 24 hours after birth
- The yellow color is spreading, deepening, or returning
- The baby feeds poorly or repeatedly misses feeds
- There are fewer wet diapers or signs of dehydration
- Jaundice remains visible beyond the expected early newborn period
- Urine is persistently dark or stools are pale, white, or chalky

Common questions

How long does newborn jaundice last?

Typical jaundice often fades within one to two weeks. It may last longer after a premature birth. Breast milk jaundice can continue for several weeks, but ongoing yellowing should be checked to rule out another cause.

Is newborn jaundice dangerous?

Most newborn jaundice is mild and clears without harm. It becomes dangerous when unconjugated bilirubin rises high enough to affect the brain or when jaundice is caused by a serious underlying condition. A bilirubin measurement is more reliable than judging the skin color.

Can I treat newborn jaundice with sunlight?

No. Sunlight cannot be measured or controlled like medical phototherapy. Direct exposure can cause sunburn or temperature problems. If treatment is needed, phototherapy uses specific light under monitored conditions.

Should I stop breastfeeding if my baby is jaundiced?

Usually not. Continued feeding helps the body remove bilirubin. Some babies need feeding

support or temporary extra milk, but this should be based on an assessment of milk transfer, weight, hydration, and bilirubin level.

Can jaundice return after phototherapy?

Yes. Bilirubin can rise again after the lights are stopped, particularly if its underlying cause is still present. The care team may arrange a repeat measurement for babies at higher risk of this rebound.

Why are pale stools important?

Bile gives stool much of its normal color. Pale, white, or chalky stools can mean that bile is not reaching the intestine normally. This needs prompt assessment because some bile duct and liver conditions benefit from early treatment.

Sources

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